

Thermal Sciences for Fire Protection Engineers

Executive Summary

The proposed project is to develop an introductory graduate level course in “Thermal Sciences for Fire Protection Engineers.” This course will be the first required course in the fundamental fire science track of the new MS program in Fire Protection Engineering (FPE) to be initiated at California Polytechnic State University (Cal Poly) in the fall of 2010. This course will introduce students lacking a thermal science background to the subjects of thermodynamics, fluid mechanics, and heat and mass transfer as they apply to the modern practice of FPE. This course will allow individuals to improve their knowledge of thermal sciences in order to enhance their understanding of performance-based fire safety analysis. Upon completing this course, students will understand how these concepts are used in the development and application of fire dynamics calculations and fire modeling simulations, including their applications under 10 CFR 50.48(c) and NFPA 805.

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